

Research On The Innovative Design Of The Structure Of a Furniture Box For Rapid Packaging

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Abstract

Through the study of the furniture boxes with fast packaging, there are multiple partitions inside the box body, the box cover and the disassembly plate. The upper and lower interconnecting hollow structure inside each group of partitions is the jack used to insert the insert plate or support plate. The middle position of the top of the diaphragm plate is provided with a positioning groove for mounting the positioning table. The clamping board is provided with a clamping board, which is symmetrical on the wall body of the hollow structure inside the clapboard. The box cover is installed with multiple sets of insert plates corresponding to the position of the separator; The removal plate includes the bottom plate, which is provided with mounting holes, and the top of the supporting plate is provided with the placement groove for the card slot and the card table. While ensuring the overall packaging strength of furniture boxes, the packaging efficiency is improved and the cost is reduced, which is suitable for marketing and production.

Keywords

Fast packaging; Furniture box; Structural innovation; design.

1. Background

The utility model relates to a fast packaging furniture box, which is characterized in that the clamping groove is a wedge structure, and the positioning groove is set on the same axis with the clamping table and positioning groove, and the positioning groove is set on the same axis with the positioning table. The bottom end of the sliding bar is installed with a roller, and the supporting plate and the roller are respectively set on the two ends of the floor. The roller is used to assist the sliding bar to slide in the floor. The support plate is wedge structure. The thickness of one end of the support plate in contact with the bottom plate is greater than that of the other end of the support plate. The thickness of one end of the supporting plate in contact with the bottom plate is greater than that of the jack. The position where the thickness of the supporting plate is greater than the thickness of the jack shall not be less than 1/3 of the height of the supporting plate. The width of the support plate is less than the width of the jack, and the width of the support plate is at least 1/3 less than the width of the jack. The technical field involves the field of furniture boxes. To be specific, it is a kind of furniture box for quick packaging.

2. Technical analysis

In the packaging of small articles or small parts, it can play the purpose of packaging, sorting, storage and protection. The existing furniture boxes for small articles or small parts are usually packed by folding or splitting the boxes. The disadvantage is that the furniture boxes are easy to disperse. During transportation bumps, small items or parts can easily leak out of a gap, especially small items such as screws or needles. If multi-layer packaging is adopted, the workload will be increased and packaging resources will be wasted and processing costs are high. Besides, It can only be used once for inner

packing, and the packing efficiency is low. So it is not suitable for small goods or small parts packaging and transportation of the outer packaging use.

3. Design Content

The technical problem to be solved in this design is: it is easy to collect the small parts and components, so as to avoid being scattered and lost from the gap of the box during transportation. The box body has high strength after installation to prevent deformation and fragmentation, and the furniture box is easy to install and open.

The technical solution adopted by this design to solve its technical problems is:

The beneficial effect of this design is that it has the advantages of compact structure and convenient use. The box is easy to disassemble and assemble. And the box body can be used for many times. After the box body and the box cover are installed, the overall strength of the furniture box can be improved, so as to prevent the box body from deformation and fragmentation and avoid the gap between the box body and the box cover. And this prevents the contents from falling apart.

Design specification

To provide a clearer picture of the design embodiment or the technical scheme of the existing technology, a brief description of the appendages to be used in the embodiment or the description of the existing technology is given below. Obviously, the accompanying diagram in the following description is just a few examples of this design. For the ordinary technicians in this field, other attached drawings can be obtained on the basis of these attached drawings without any creative labor.

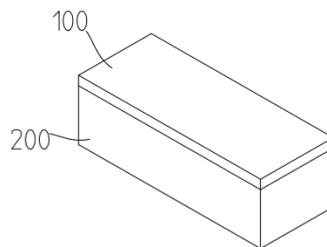


FIG. 1 is a schematic diagram of the overall composite structure provided by this design embodiment; In the figure: 100. Box body, 110. Separator, 111. Jacking, 112. Positioning slot, 113. Clamping table, 200. Lid, 210. Inserting plate, 211. Positioning table, 212. Joint bar, 300. Removal plate, 310. Baseplate, 311. Mounting hole, 320. Bracing plate, 321. Placement groove, 322. Slide bar.

4. Specific implementation methods

The above scheme is further explained with specific examples. It should be understood that these embodiments are intended to clarify the design rather than limit the scope of the design. The implementation conditions adopted in the example can be further adjusted according to the conditions of the specific manufacturer. The unspecified implementation conditions are usually the conditions in the conventional experiment.

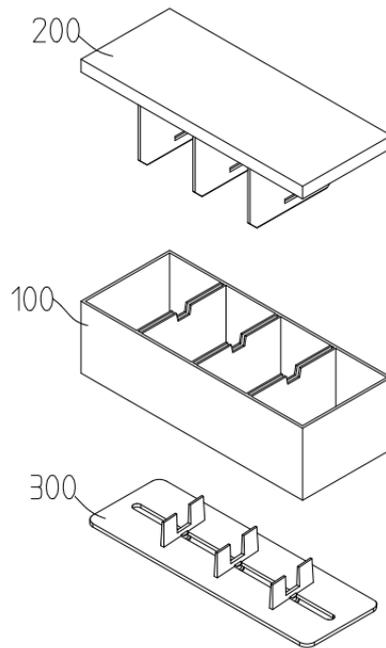


FIG. 2 is a schematic diagram of the overall decomposition structure provided by this design embodiment;

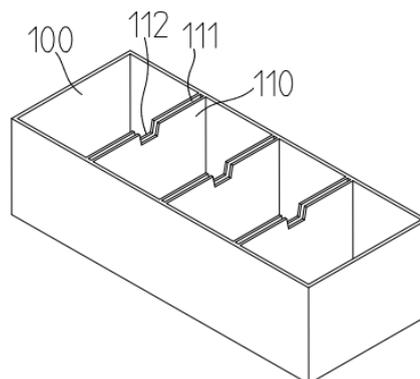


FIG. 3 is a schematic diagram of the first structure of the box provided by this design embodiment;

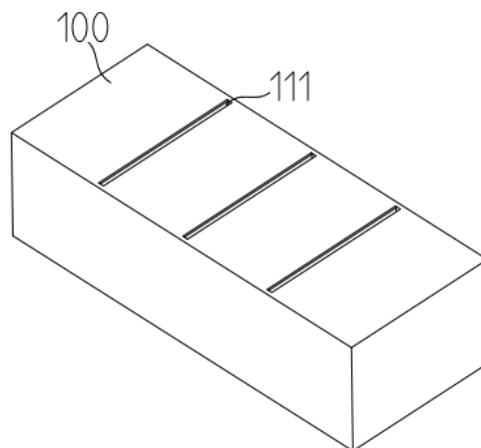


FIG. 4 is a schematic diagram of the second structure of the box provided by this design embodiment; As shown in figure 1- figure 8, figure 1 is the overall composition structure diagram provided by this design embodiment. FIG. 2 is a schematic diagram of the overall decomposition structure provided by this design embodiment; FIG. 3 is a schematic diagram of the first structure of the box provided by this

design embodiment; FIG. 4 is a schematic diagram of the second structure of the box provided by this design embodiment; FIG. 5 is a schematic diagram of the third structure of the box provided by this design embodiment; FIG. 6 is an enlarged structure diagram at A-A of FIG. 5. FIG. 7 is a schematic diagram of the box cover structure provided in this design example; FIG. 8 is a schematic diagram of the disassembly plate structure provided in this design embodiment.

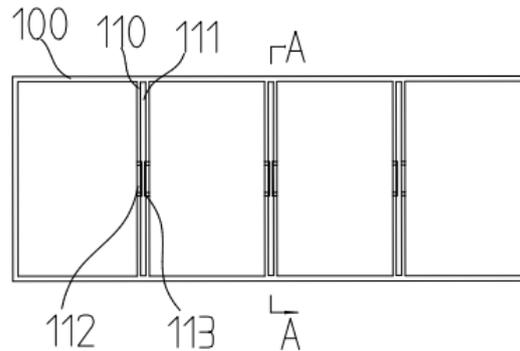


FIG. 5 is a schematic diagram of the third structure of the box provided by this design embodiment;

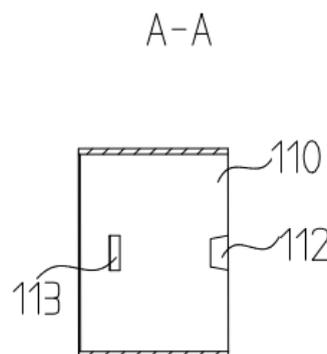


FIG. 6 is an enlarged structure diagram at A-A of FIG. 5.

In one specific embodiment, a rapid packaging furniture box is provided, including box body 100, box cover 200 and disassembly panel 300. The box body 100 is internally mounted with multiple sets of diaphragm 110, of which the upper and lower connected hollow structure inside each set of diaphragm 110 is the jack 111 used for inserting the insert plate 210 or the support plate 320. The middle position of the top of the partition 110 is provided with the positioning slot 112 for mounting the positioning table 212. The partition 110 is provided with clamp 113, which is set with the coaxial line of positioning slot 112. The clamshell 113 is symmetrically located on the wall body of the hollow structure inside the diaphragm 110;The box cover 200 is installed with a number of sets of plates 210 corresponding to the position of the partition 110. The plug plate 210 is provided with a slot 211 for the mounting of the card table 113, the positioning table 212 is provided at the connection between the plug plate 210 and the box cover 200, and the joint between the plug plate 210 and the box cover 200 is provided with multiple sets of connecting bars 213. The removal plate 300 includes the bottom plate 310, the bottom plate 310 is provided with the mounting hole 311, the top of the supporting plate 320 is provided with the placement slot 321 for placing the card slot 211 and the card table 113, the bottom of the supporting plate 320 is provided with the slide bar 322, and the slide bar 322 can slide within the mounting hole 311.

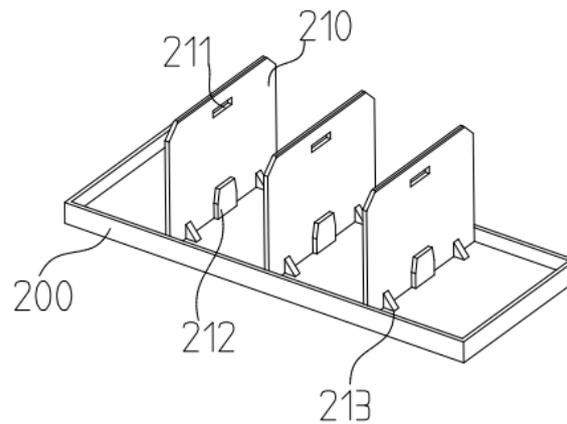


FIG. 7 is a schematic diagram of the box cover structure provided in this design example; The structure analysis of the slot 211 is wedge structure, which can facilitate the installation and separation of the clamp 113 and realize the purpose of rapid packaging and repacking.

In the structural design, the coaxial line of slot 321 and clamping slot 113 and positioning slot 112 is set, and the coaxial line of slot 321 and clamping slot 211 and positioning table 212 is set. Therefore, the purpose of rapid packaging and packaging can be realized. When the insert plate 210 is installed inside the jack 111, the clamping table 113 is installed inside the card slot 211, which can prevent the separation of the box body 100 and the box cover 200, and prevent the furniture box from dispersing. The positioning table 212 is installed in the positioning slot 112, which can locate the box body 100 and the box cover 200 to prevent the box body from being damaged due to the leakage of the box cover 200 on the box body 100.

Placement. The bottom end of the slide bar 322 is equipped with a roller, and the support plate 320 and the roller are respectively located on the two ends of the bottom plate 310. The roller is used to assist the slide bar 322 to slide inside the base plate 310 and to adjust the position of the support plate 320, so as to achieve the purpose of sub-assembly.

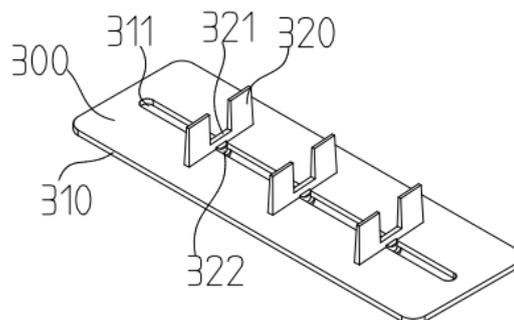


FIG. 8 is a schematic diagram of the disassembly plate structure provided in the design embodiment; Shape Analysis. The support plate 320 is a wedge structure. The thickness of one end of the support plate 320 is greater than that of the other end of the support plate 310. The position of the support plate 320 and the base plate 310 in contact with one end is greater than the thickness of jack 111, and the thickness of the support plate 320 is greater than the thickness of jack 111 at least not less than 1/3 of the height of the support plate 320, so that the support jack 111 can be achieved. The clamping unit 113 comes out from the slot 211, thus taking out the plug plate 210 from the jack 111, and disconnects the box body 100 from the box cover 200

The width of plank 320 is less than that of jack 111. The width of the support plate 320 is at least 1/3 less than that of jack 111, so as to achieve the support plate 320. When supporting jack 111, it can prevent the connection between the partition plate 110 and the box body 100 from being broken.

Specific working process. When assembling the furniture box, insert the insert plate 210 of the cover 200 into the jack of the partition 110 of the box body 100 separately. Press the box cover 200 towards the box body 100 direction, make the jack 111 inner clamp 113 stick into the card slot 211, fix the box cover 200 and box body 100. At this point, the positioning table 212 is located in the positioning slot 112, which prevents the box cover 200 from moving on the box body 100, so as to realize the purpose of assembling the box cover 200 and box body 100. When splitting the box cover 200 and box body 100, adjust the number and space of support plate 320 according to the number and space of partition plate 110, insert the corresponding jack hole of partition plate 110 into 111. When the force is applied to the bottom plate 310 in the direction of 100 direction of the box body, the gap thickness of jack 111 is gradually expanded by the support plate 320. At this point, the clamshell 113 is pulled out from the slot 211, and the plug plate 210 is taken out from the jack 111, and the box body 100 and the box cover 200 are separated.

5. Summary

Based on the ideal implementation example of this design, relevant staff can make various changes and modifications without deviating from the technical idea of this design. The technical scope of this design is not limited to the contents in the specification. Its technical scope must be determined according to the scope of claims.

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